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ABSTRACT

This fact sheet on assistive technology for people with mental retardation (MR) defines assistive technology, notes how it can benefit people with MR, discusses how it is used by people with MR, lists factors to consider before using assistive technology, outlines barriers in obtaining assistive technology for people with MR, and mentions two sources of information about assistive technology. The fact sheet stresses that: technology can help in overcoming barriers and moving towards independence and inclusion; assistive technology solutions should be flexible and customizable to accommodate the unique abilities of each person with MR; and assistive technology can be used for communication, environmental control, mobility, education, activities of daily living, employment, and sports and recreation. (JDD)

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Assistive Technology for People with Mental Retardation

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The Arc

a national organization on mental retardation

Q&A

ASSISTIVE TECHNOLOGY FOR PEOPLE WITH MENTAL RETARDATION

What is assistive technology?

Assistive technology is the term used to describe devices that are used by children and adults with mental retardation and other disabilities to compensate for functional limitations and to enhance and increase learning, independence, mobility, communication, environmental control and choice. It also refers to direct services that assist individuals in selecting, acquiring or using such devices (The Arc, 1991).

How can assistive technology benefit people with mental retardation?

Technology can help people with mental retardation overcome barriers towards independence and inclusion. Assistive technology compensates for the functional limitations of the user and serves as a liberating agent for the individual.

Specifically the user may communicate with others, engage in recreational and social activities, learn, work, control the environment, and increase his or her independence in daily living skills with the assistance of technology (Copel, 1991).

People with mental retardation should be introduced to the benefits of assistive technology early in their lives. There should be consistency in the kind of technology available, how it is used, and methods for instructing the user on operating the device. The device should be available for use throughout the day and in all settings, including home, school, work and leisure time environments. Transitions from one device to another should be made as smooth as possible by building on and integrating previously learned skills.

Assistive technology solutions should be flexible and customizable to accommodate the unique abilities of each person with mental retardation. There is a growing use of assistive technology with infants and young children, particularly with communication devices being introduced to facilitate early language development. Technology is also being developed to address the needs of people as they age in an effort to help them continue to live independently.

How is assistive technology used by people with mental retardation?

Communication. For a person who cannot communicate with his/her voice, for physical and/or cognitive reasons, technology can substitute as a voice for the user. Computerized communication devices with vocal output are called augmentative communication devices.

Environmental Control. Devices to control the environment are important to people with severe or multiple disabilities and/or cognitive disabilities, whose ability to move about in the environment and to turn electrical appliances on or off is limited. Assistive technology allows a person to control electrical appliances, audio/video equipment such as home entertainment systems or to do something as basic as lock and unlock doors.

Mobility. For a person who does not walk, simple to sophisticated computer controlled wheelchairs and mobility aids are available.

Education. For a student with disabilities, the computer becomes a tool for improved literacy, language development, mathematical, organizational, and social skill development. Students with severe and multiple disabilities use technology in all aspects of the classroom learning environment; from academic software to communication. Alternative ways to access computers are available for students who cannot operate a keyboard. Software can be regulated so it runs at a slower pace if a student needs this type of modification for learning.

Activities of Daily Living. Technology is assisting people with disabilities to successfully complete everyday tasks of self care. Examples include:

- Automated and computerized dining devices allow an individual who needs assistance at mealtime to eat more independently (Brown, et al., 1991).
- Devices may be used to assist a person with memory difficulties to complete a task or to follow a certain sequence of steps from start to finish in such activities as making a bed or taking medication.
- Homes can be designed which use technology to assist a person to become more independent. Various devices can regulate and control many aspects of the living environment. An environment can be computerized to give cues and auditory direction for successfully performing tasks or for navigating.
- Directional guidance systems with auditory cues can assist a person to travel from one location to another.
- Technology can assist a person to shop, write a check, pay the bills, or use the ATM machine.

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Employment. With the advent of the Americans with Disabilities Act, employers are making the workplace more cognitively accessible. For some employees, this requires worksite modifications where the employer adapts the environment, to permit the employee to perform a job. As an example, an audio tape is an accommodation which can be used to prompt a worker to complete each task in a job.

Sports and Recreation. Computerized games can be adapted for the user with physical limitations. Adaptations can be made to computer games which allows the game activity to be slowed down for the user who cannot react as quickly to game moves and decision-making. Specially adapted sports equipment is available to compensate for functional limitations and which allow an individual to participate more fully. For example, people with mental retardation can participate in bowling using specially designed ball ramps.

What are some considerations before using assistive technology with an individual who has mental retardation?

Before determining whether or not an individual with mental retardation will benefit from assistive technology, the following questions should be considered:

- What functional limitation does the individual with mental retardation have that might be helped by assistive technology?
- Have professionals conducted a comprehensive assessment to determine what assistive technology might be beneficial?
- Will the technology be available for the person to use at all times in all environments where needed, and if not, what alternatives exist in other environments?
- Will the assistive technology be a tool and not inhibit typical development and skill acquisition?
- Does the professional support system exist for the successful application and use of the identified technology?
- Can parents, teacher, and/or the person with mental retardation obtain training in the use of technology?

What are some barriers in obtaining assistive technology for people with mental retardation?

Sometimes, finding appropriate assistive technology for a person with mental retardation is difficult because the technology may not exist which takes into account the unique needs of people with cognitive disabilities. Assistive technology professionals, like computer scientists and rehabilitation engineers, have limited experience applying technology assistance to users with cognitive disabilities. Consequently, they may be unfamiliar with appropriate system design, training and skill development strategies which encourage successful technology use by people with mental retardation.

Individuals with physical or sensory limitations have challenges that can be addressed through specific and generic problem solving. That is, by modifying a computer for a person who is blind, it will be accessible by many people who are blind. Because most people with mental retardation or cognitive limitations have a range of learning and processing abilities, it is difficult to develop generic assistive technology solutions which are appropriate for all individuals. Assistive technology solutions must be flexible and easily customized.

Developers and manufacturers of assistive technology often do not consider issues of cognitive access and flexibility when designing their products. An exception are developers of communication devices who are pioneering efforts to design their products for cognitive access recognizing that many users needing communication devices have cognitive limitations.

Sufficient instructional strategies for device use have not been developed to assist practitioners. Thus, even though a device is designed for cognitive access and use, if the user does not receive adequate instruction, the device has limited utility.

The predictable barrier of the cost of assistive technology is also an ever present issue. Information on funding is available through The Arc.

What are some sources of information about assistive technology?

Currently, 42 of the 50 states have funding from the federal government to coordinate and organize statewide assistive technology services. To identify resources within your state, contact the RESNA Technical Assistance Project, 1101 Connecticut Ave., NW, Suite 700, Washington, D.C. 20036 (202)857-1140.

Some communities also have assistive technology learning centers. Contact the Alliance for Technology Access for more information, 1307 Solano Ave., Albany, CA 94706-1888 (415)528-0746.

The Arc also maintains an extensive library of information on assistive technology and can provide information on specific topics.

References

The Arc. (1991). Assistive Technology Position Statement.

Copel, H. (1991). Tech Use Guide: Students with moderate cognitive abilities (Technical Report). Reston, VA: Center for Special Education Technology.

Brown, C., Sauer, M., Cavalier, A., Frische, E., & Wyatt, C. (1991). *The assistive dining device: A tool for mealtime independence.* Proceedings of the RESNA 14th Annual Conference (pp. 341-343). Kansas City, MO: RESNA.